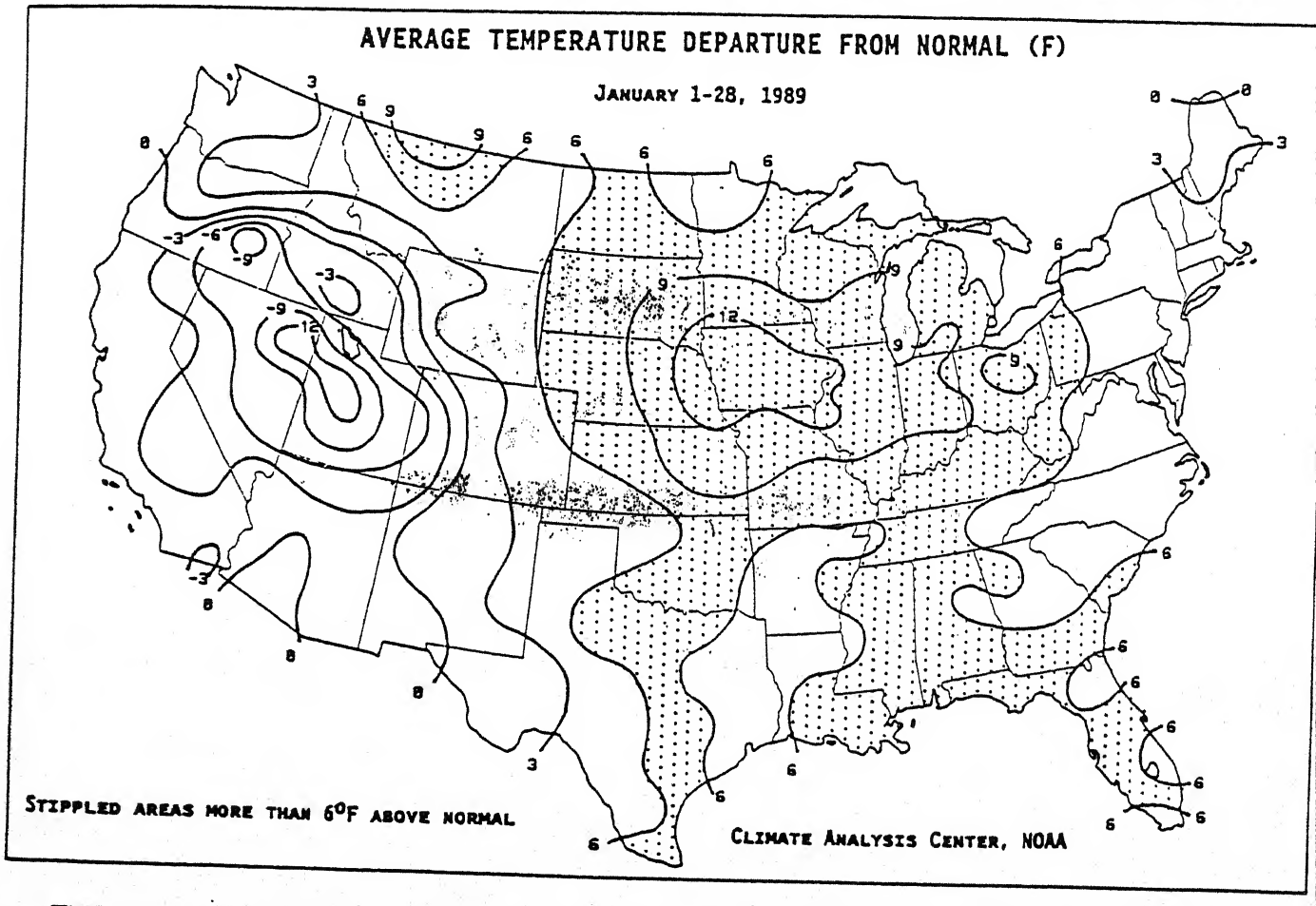
CLIMATE ANALYSIS CENTER

WEEKLY CLIMATE BULLETIN

No. 89/04 Washington, DC January 28, 1989



THE FIRST FOUR WEEKS OF JANUARY 1989 HAVE BEEN UNSEASONABLY MILD ACROSS THE EASTERN TWO-THIRDS OF THE NATION AS TEMPERATURES HAVE AVERAGED UP TO 13°F ABOVE NORMAL IN IOWA. FOR MORE INFORMATION ON THE ABNORMALLY MILD AND DRY WINTER IN EUROPE AND THE U.S., THE BITTER COLD IN ALASKA, AND AN UPDATE ON THE RAINY SEASON IN SOUTHERN AFRICA, REFER TO THE SPECIAL CLIMATE SUMMARIES.

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE - NATIONAL METEOROLOGICAL CENTER

WEEKLY CLIMATE BULLETIN

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This Bulletin is issued weekly by the Climate Analysis Center and is designed to indicate, in a brief, concise format, current surface climatic conditions in the United States and around the world. The Bulletin contains:

Highlights of major global climatic events and anomalies.
U.S. climatic conditions for the previous week.
U.S. apparent temperatures (summer) or wind chill (winter).
Global two-week temperature anomalies.
Global four-week precipitation anomalies.
Global monthly temperature and precipitation anomalies.
Global three-month precipitation anomalies (once a month).
Global twelve-month precipitation anomalies (every 3 months).
Global temperature anomalies for winter and summer seasons.
Special climate summaries, explanations, etc. (as appropriate).

Most analyses contained in this Bulletin are based on preliminary, unchecked data received at the Center via the Global Telecommunication System. Similar analyses based on final, checked data are likely to differ to some extent from those presented here.

To receive copies of the Bulletin or change mailing address, write to:

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GLOBAL CLIMATE HIGHLIGHTS

MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF JANUARY 28, 1989

[Approximate duration of anomalies is in brackets]

1. Alaska:

BITTER COLD PREVAILS.

Bitterly cold weather, with temperatures as much as 25.2°C (45.4°F) below normal, persisted across most of Alaska (see Special Climate Summary) [2 weeks].

2. Southern Canada; North Central U.S.:

MILD AIR PREDOMINATES.

Temperatures rose sharply over a large area of Canada and the U.S. with a few stations reporting positive departures up to 13.3°C (24.0°F) [2 weeks]

3. Uruguay and Northern Argentina:

AREA REMAINS DRY AND WARM.

Fewer than 13.2 mm (0.52 inches) of precipitation fell as dryness persisted [31 weeks]. Unusually warm conditions returned as temperatures rose to 5.7°C (10.3°F) above normal [9 weeks].

4. Southern Europe:

DRYNESS SPREADS.

Portions of central Italy received rains up to 66.0 mm (2.60 inches) while the remainder of the country continued dry for the eleventh week. This persistent dryness has spread and now includes most of southern Europe (see Special Climate Summary) [8 weeks].

5. South Central Siberia:

MILD CONDITIONS LINGER.

The mild weather regime, with temperatures reaching 10.8°C (19.4°F) above normal, persisted in the region around Lake Baykal [16 weeks].

6. Northwestern India:

TEMPERATURES MODERATE.

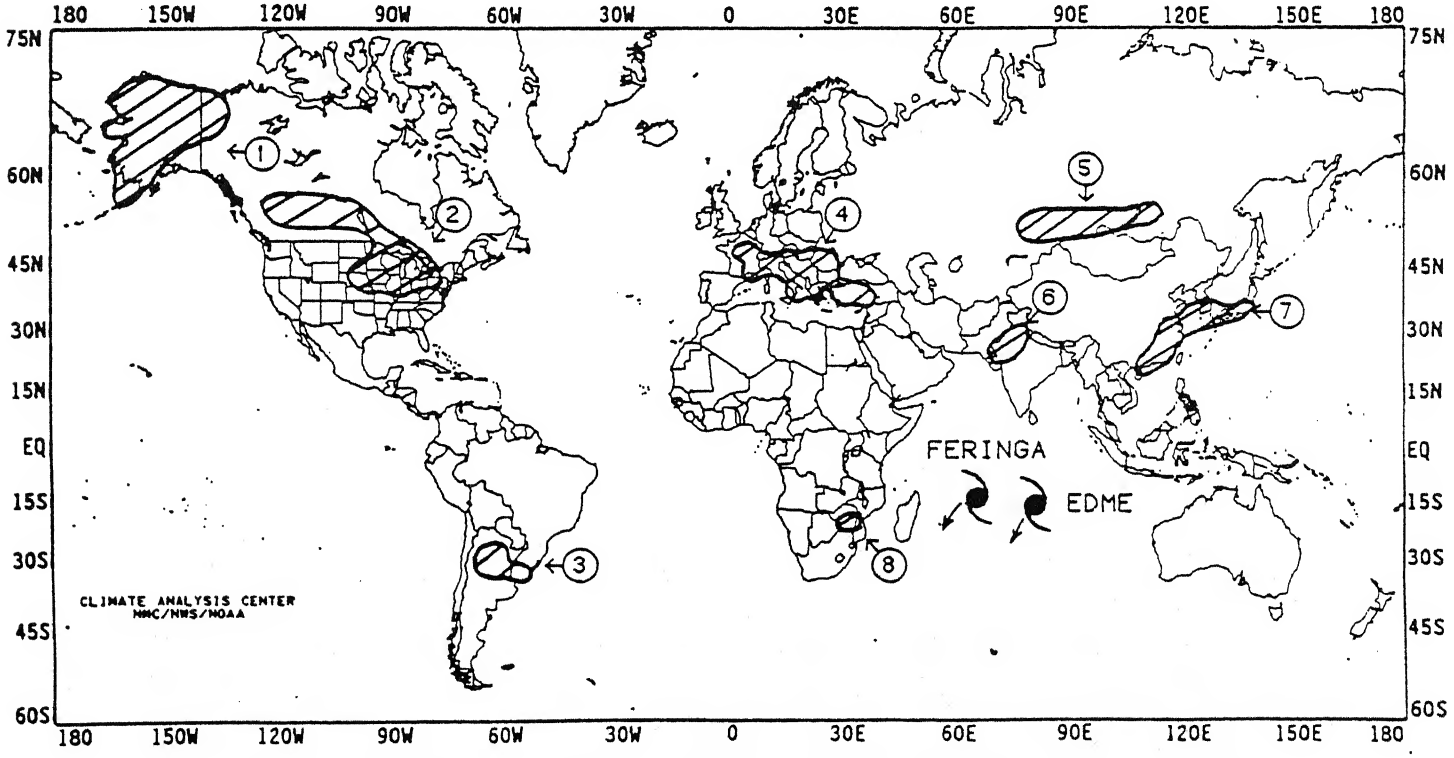
Near normal conditions returned to the area as subnormal temperatures abated. [Ending at 2 weeks].

7. Eastern China; South Korea; Southern Japan:

ABNORMALLY WET.

Wet conditions have developed in the region as up to 127.5 mm (5.02 inches) of precipitation was measured [5 weeks]. The recent precipitation in eastern China has eased the dryness that prevailed from October to December.

(NOTE: Text precipitation amounts and temperature departures are this week's values).



Approximate locations of the major anomalies and events described above are shown on this map. See other maps in this Bulletin for current two week temperature anomalies, four week precipitation anomalies, longer term anomalies, and other details.

UNITED STATES WEEKLY CLIMATE HIGHLIGHTS

FOR THE WEEK OF JANUARY 22 THROUGH JANUARY 28, 1989.

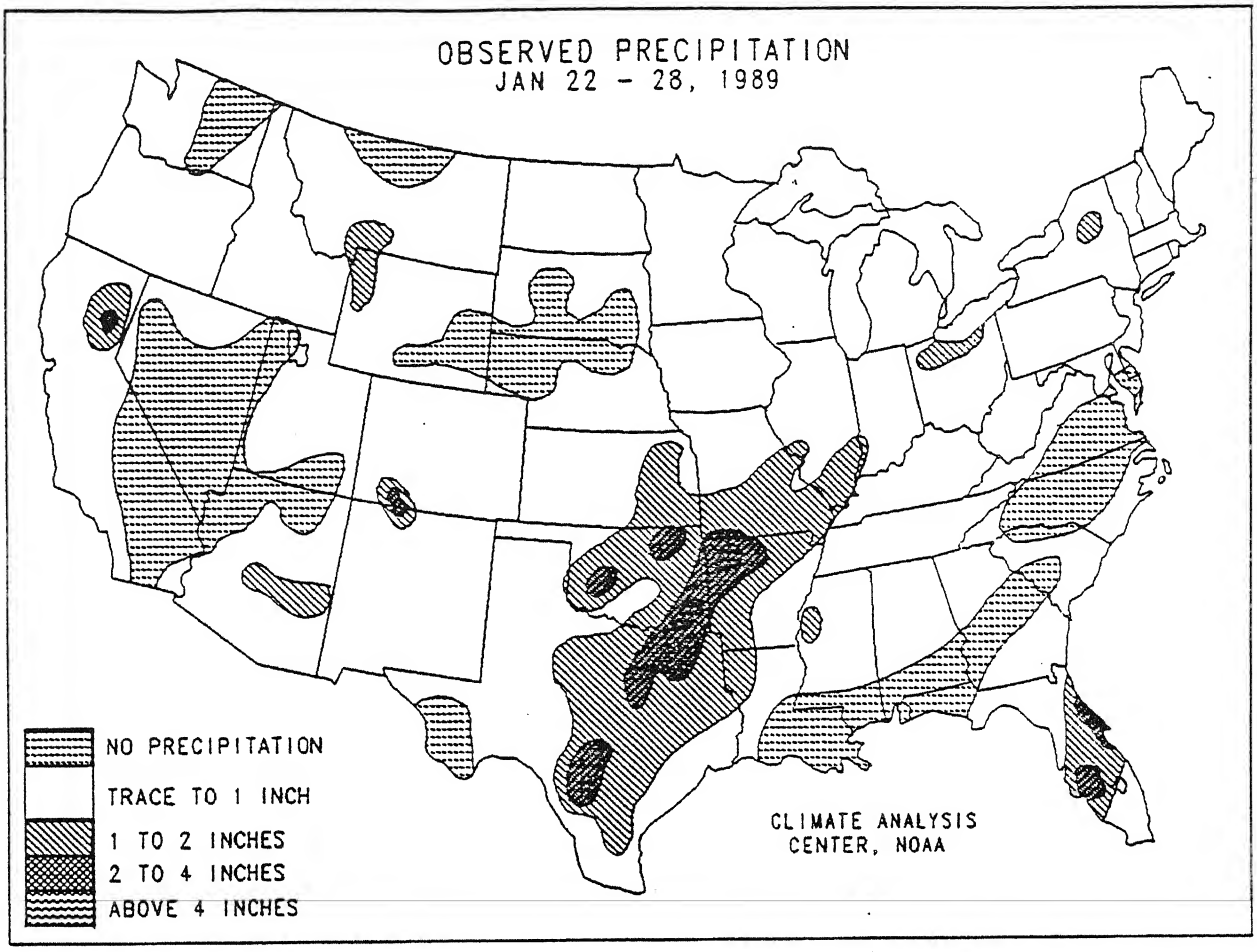
Unseasonably mild conditions continued in the eastern two-thirds of the nation. Most of the country generally received light to moderate precipitation with the exception of the southwestern, north-central, and southeastern U.S. The jet stream remained well north of its normal January track, keeping wintry conditions in northwestern Canada and Alaska. A frontal system brought light precipitation to the Pacific Northwest and heavy snows to the northern Rockies, while an upper air disturbance off Baja California moved eastward during the week and produced heavy snows in the southern Rockies. In the southern Great Plains, strong thunderstorms hit Texas and Oklahoma and spawned a tornado near Troy, TX. Light showers preceding a cold front occurred in the southern areas of the Midwest and New England, while frozen precipitation fell on the northern sections.

Heavy showers and thunderstorms occurred over central Texas, eastern Oklahoma, and northwestern Arkansas as up to 5.7 inches of rain was measured in south-central Oklahoma, according to the River Forecast Centers (see Figure 3). The precipitation brought some relief from the dryness in parts of the central and southern Great Plains that has prevailed since October 1988. Farther east, central Florida received moderate to heavy rainfall for the second straight week. In Alaska, stormy weather soaked the southeastern portion of the state with up to 8 inches of rain (see Table 1). Light to moderate amounts were observed along the Pacific Coast, in most of the Rockies, the central and southern Great Plains, and throughout most of the country east of the Mississippi River. Little or no precipitation fell on the desert Southwest and Great Basin, the interior Pacific Northwest, the northern Great Plains, and from the central Gulf Coast northeastward to the Delmarva Peninsula. Since Dec. 1, several areas of the U.S. have been abnormally dry, most notably along the Atlantic Coast, in the central Great Plains, and the Pacific Northwest where less than half the normal precipitation has been recorded (see Figure 5).

For the sixth consecutive week, unseasonably mild air has persisted east of the Rockies. Temperatures averaged as much as 19°F above normal in portions of the Midwest (see Table 2) as highs surpassed 60°F as far north as South Dakota, Ohio, and New Jersey (see Figure 4). Spring-like readings in the seventies extended northward into Kentucky, Indiana, and Virginia. Approximately two dozen stations in the Great Plains and Midwest tied or set new daily maximum temperature records during the week. Bitterly cold conditions gripped most of Alaska for the second straight week (see Special Climate Summary) and subnormal temperatures prevailed in the Intermountain West for the sixth consecutive week. In the lower 48 states, the greatest negative temperature departures were located in eastern Oregon and Idaho (between -10° and -19°F), while Alaska reported temperatures as much as 45°F below normal (see Table 3). Strong winds combined with subzero readings to produce wind chills less than -120°F at Cantwell, AK. In contrast, readings below 0°F were confined to the northern Rockies, Great Basin, and northern New England (see Figure 1) in the contiguous U.S., and mild weather kept dangerous wind chills (less than -30°F) to a minimum (see Figure 2).

TABLE 1. Selected stations with more than one and one-half inches of precipitation for the week.

Station	Amount(In)	Station	Amount(In)
Ketchikan, AK	7.89	Killeen/Robert Gray AAF,TX	2.16
Annette Island, AK	5.69	Melbourne, FL	2.08
Daytona Beach, FL	5.20	Dallas/Ft. Worth, TX	2.01
McAlester, OK	4.63	Ft. Worth/Meacham AFB, TX	1.96
Yakutat, AK	4.36	Cordova/Mile 13, AK	1.86
Fort Smith, AR	3.71	Joplin, MO	1.83
Sitka, AK	3.46	Ft. Worth/Carswell AFB, TX	1.78
Dallas NAS, TX	3.33	College Station, TX	1.72
Cape Canaveral AFS, FL	3.19	Harrison, AR	1.72
Fayetteville, AR	3.07	Blytheville AFB, AR	1.68
Valdez, AK	2.99	Dallas/Love Field, TX	1.64
Juneau, AK	2.93	Altus AFB, OK	1.57
Tulsa, OK	2.58	El Dorado, AR	1.56
Hilo/Lyman, Hawaii, HI	2.58	Orlando, FL	1.51
Hobart, OK	2.42		


OBSERVED PRECIPITATION
JAN 22 - 28, 1989
NO PRECIPITATION
TRACE TO 1 INCH
1 TO 2 INCHES
2 TO 4 INCHES
ABOVE 4 INCHES
CLIMATE ANALYSIS
CENTER, NOAA

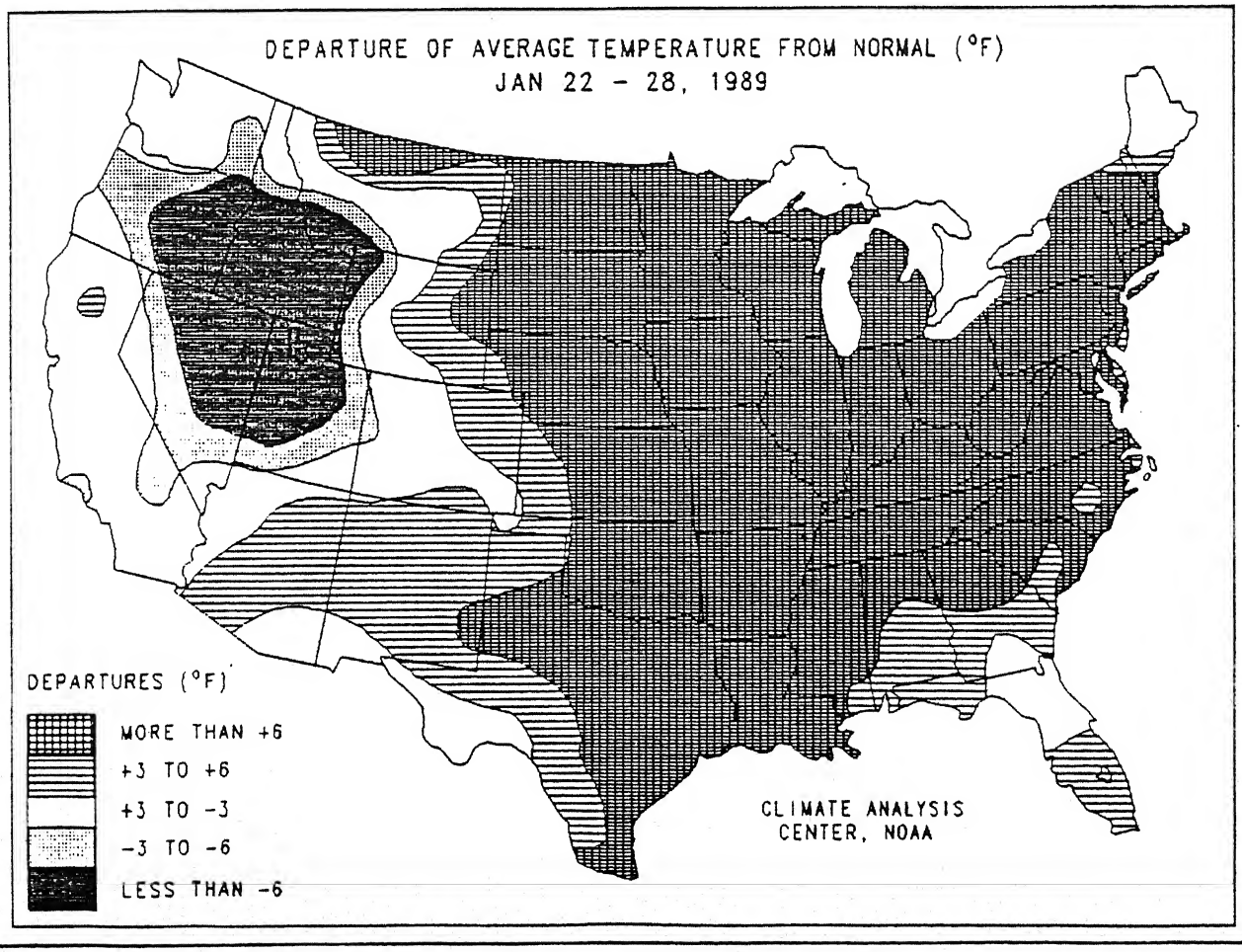

DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
JAN 22 - 28, 1989
DEPARTURES (°F)
MORE THAN +6
+3 TO +6
+3 TO -3
-3 TO -6
LESS THAN -6
CLIMATE ANALYSIS
CENTER, NOAA

TABLE 2. Selected stations with temperatures averaging 15.0°F or more ABOVE normal for the week.

Station	TDepNml	AvgT(°F)	Station	TDepNml	AvgT(°F)
Chicago/O'Hare, IL	+19.2	39.2	Findlay, OH	+17.0	40.9
Ottumwa, IA	+19.1	39.0	South Bend, IN	+17.0	39.9
Waterloo, IA	+19.1	33.3	Lansing, MI	+16.9	36.6
Springfield, IL	+18.6	42.4	Fort Wayne, IN	+16.8	39.9
Des Moines, IA	+18.6	37.2	Cedar Rapids, IA	+16.8	35.3
Rochester, MN	+18.4	27.9	International Falls, MN	+16.6	16.9
Madison, WI	+18.3	34.0	Toledo, OH	+16.4	39.6
Sioux Falls, SD	+18.3	30.8	La Crosse, WI	+16.4	30.6
Quincy, IL	+18.0	41.4	Flint, MI	+16.3	37.3
St. Louis, MO	+17.9	46.8	Sioux City, IA	+16.1	32.4
Moline, IL	+17.9	37.6	Indianapolis, IN	+16.0	42.1
St. Cloud, MN	+17.9	25.1	Havre, MT	+16.0	28.3
Peoria, IL	+17.8	39.4	Alexandria, MN	+16.0	21.4
Rockford, IL	+17.8	36.2	Pellston, MI	+15.8	30.6
Minneapolis, MN	+17.8	28.7	Marquette, MI	+15.8	27.3
Milwaukee, WI	+17.7	36.6	Duluth, MN	+15.8	22.4
Green Bay, WI	+17.6	31.4	Burlington, IA	+15.7	39.6
Eau Claire, WI	+17.6	27.2	Lincoln, NE	+15.6	35.4
Park Falls, WI	+17.6	26.9	Norfolk, NE	+15.4	33.0
Huron, SD	+17.4	28.6	Dayton, OH	+15.1	41.7
Mason City, IA	+17.3	29.8	Grand Rapids, MI	+15.1	37.0
Spencer, IA	+17.1	29.9	North Omaha, NE	+15.0	35.6
Wausau, WI	+17.1	27.9			

TABLE 3. Selected stations with temperatures averaging more than 5.0°F BELOW normal for the week.

Station	TDepNml	AvgT(°F)	Station	TDepNml	AvgT(°F)
Aniak, AK	-45.4	-44.5	Idaho Falls, ID	-16.2	2.9
Nome, AK	-44.8	-38.8	Northway, AK	-16.2	-36.1
Unalakleet, AK	-43.1	-40.0	Boise, ID	-15.6	15.2
Kotzebue, AK	-37.5	-40.1	Gulkana, AK	-15.1	-21.7
Iliamna, AK	-36.4	-21.1	Cold Bay, AK	-15.0	13.1
King Salmon, AK	-34.8	-21.4	Winnemucca, NV	-11.9	19.2
Fairbanks, AK	-31.8	-42.6	Delta, UT	-11.8	15.1
Big Delta, AK	-31.4	-36.1	Pocatello, ID	-11.5	13.0
Talkeetna, AK	-28.8	-18.9	Salt Lake City, UT	- 9.0	20.5
Bettles, AK	-24.3	-34.4	Ely, NV	- 8.5	16.6
Kenai, AK	-24.0	-12.9	Cedar City, UT	- 7.9	22.4
Barrow, AK	-23.8	-39.0	Burley, ID	- 7.5	19.9
Burns, OR	-21.9	6.9	Valdez, AK	- 7.2	11.4
Anchorage, AK	-20.6	-7.4	Walla Walla, WA	- 6.7	26.9
Homer, AK	-19.9	1.9	Butte, MT	- 6.4	9.5
St. Paul Island, AK	-19.1	6.5	Adak, AK	- 5.4	27.7
Elko, NV	-18.4	7.5			

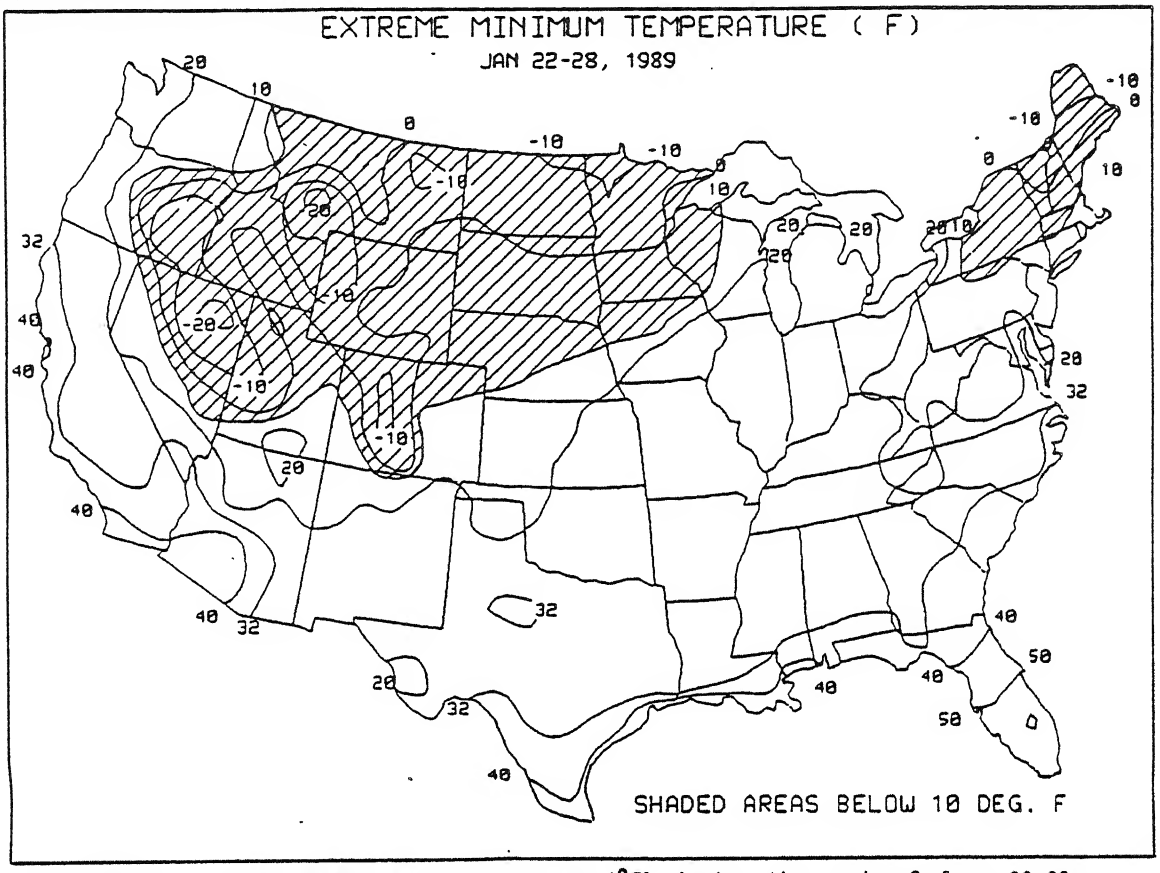


Figure 1. Extreme minimum temperatures (^{o}F) during the week of Jan. 22-28, 1989. Subzero readings were confined to the Intermountain West, northern Rockies, upper Midwest, and northern New England as unseasonably mild weather prevailed throughout most of the lower 48 states.

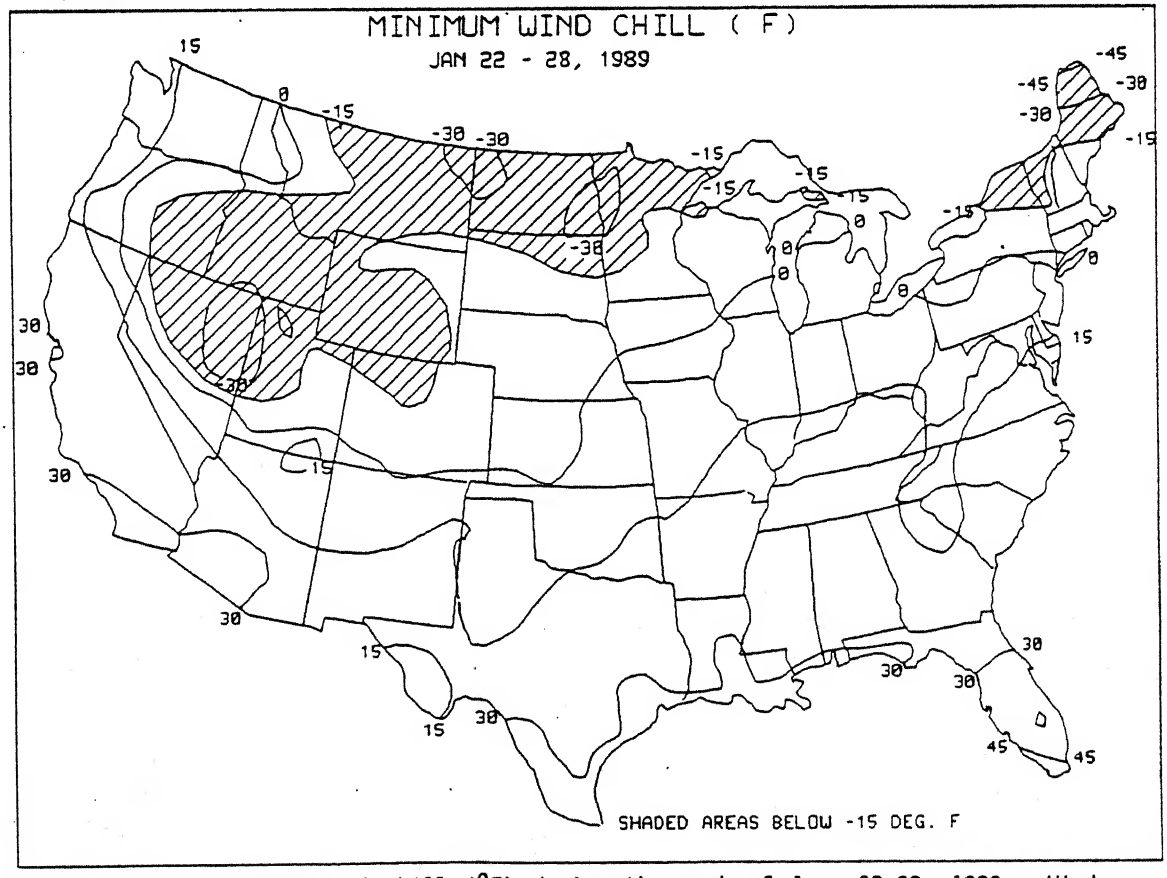


Figure 2. Lowest wind chill (^{o}F) during the week of Jan. 22-28, 1989. Wind chills below -30^{o}F were limited to parts of the Great Basin, the northern Great Plains, upper Midwest, and northern Maine. In contrast, wind chills below -120^{o}F occurred in central Alaska (see Special Climate Summary).

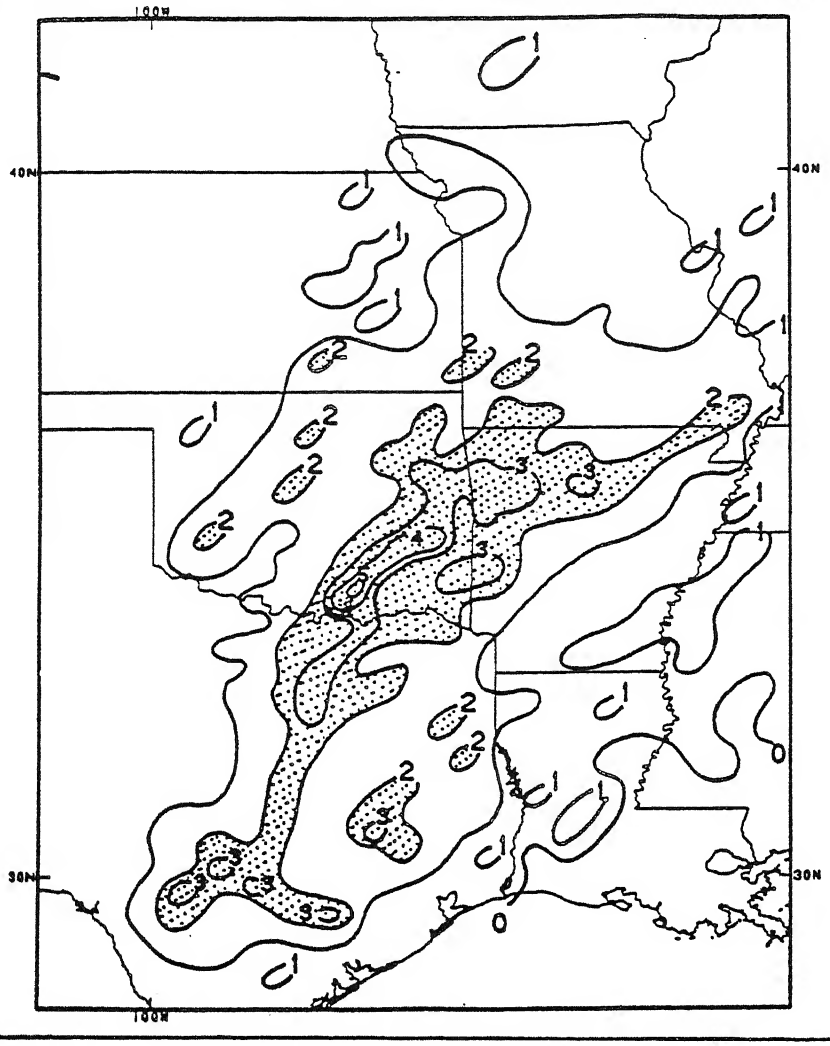


Figure 3. Total precipitation (inches) during Jan. 22-28, 1989 utilizing the River Forecast Centers data network. Isopleths are drawn for every inch, and stippled areas are more than 2 inches. Up to 5.7 inches of precipitation fell on portions of the southern and central Great Plains and provided some relief to the area's dryness.

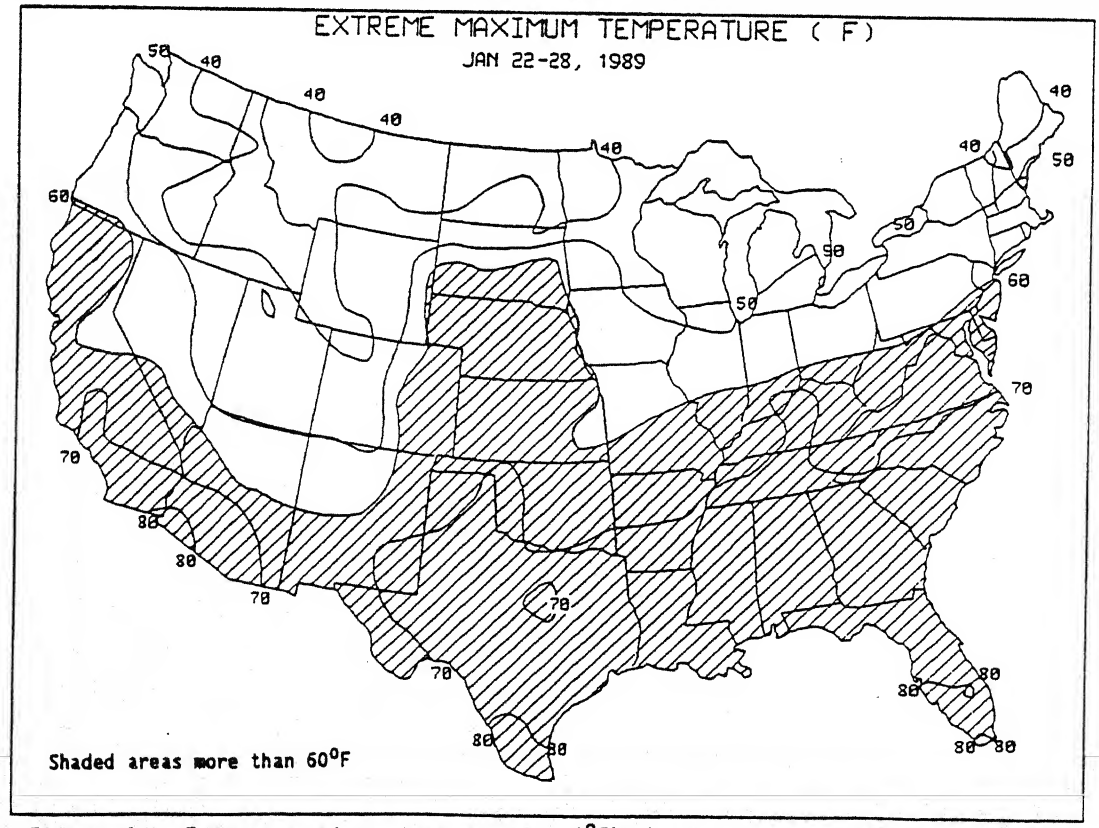


Figure 4. Extreme maximum temperatures (°F) during the week of Jan. 22-28, 1989. Spring-like weather covered much of the eastern two-thirds of the nation as the 60°F isotherm extended as far north as South Dakota, Ohio, and New Jersey.

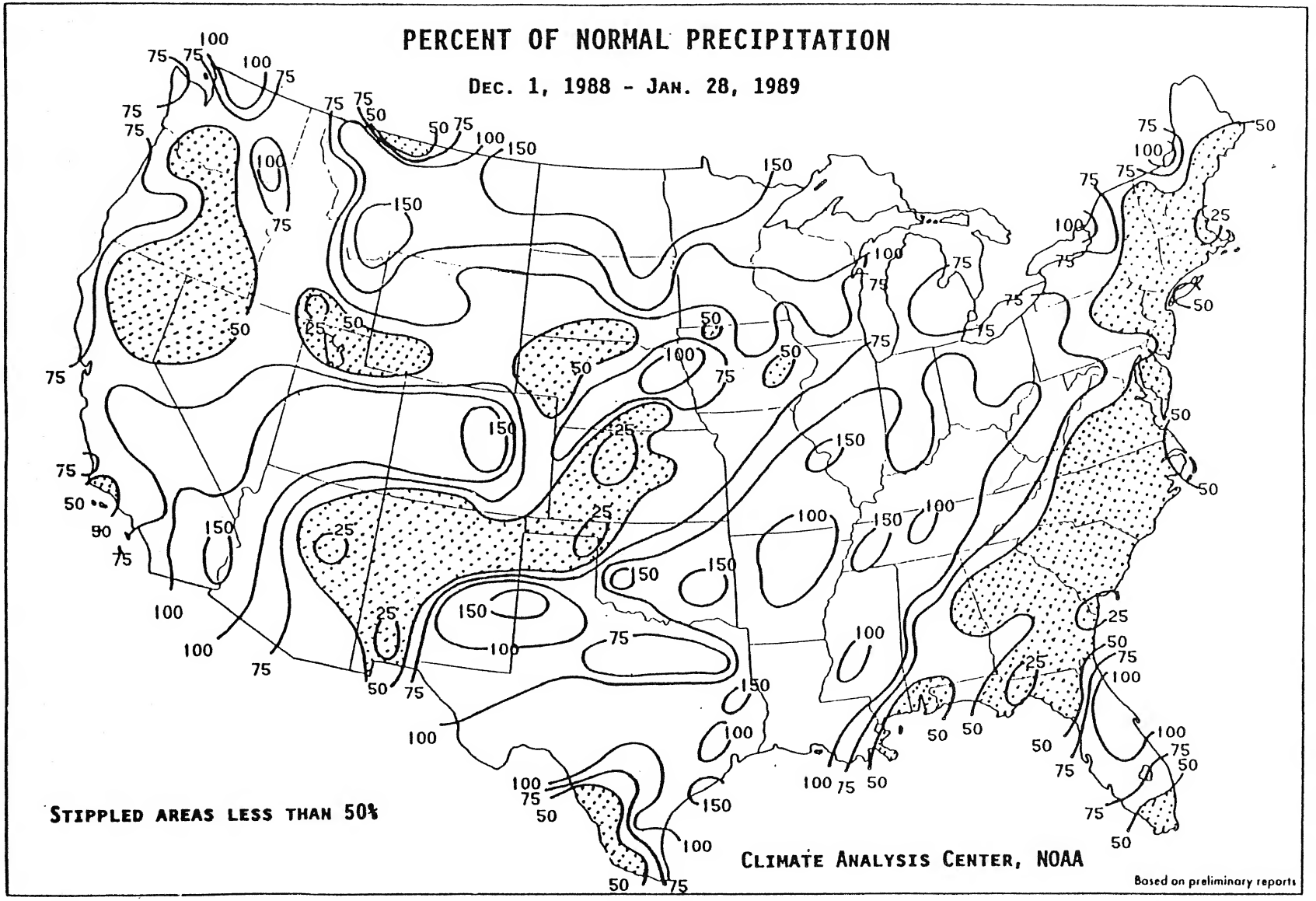
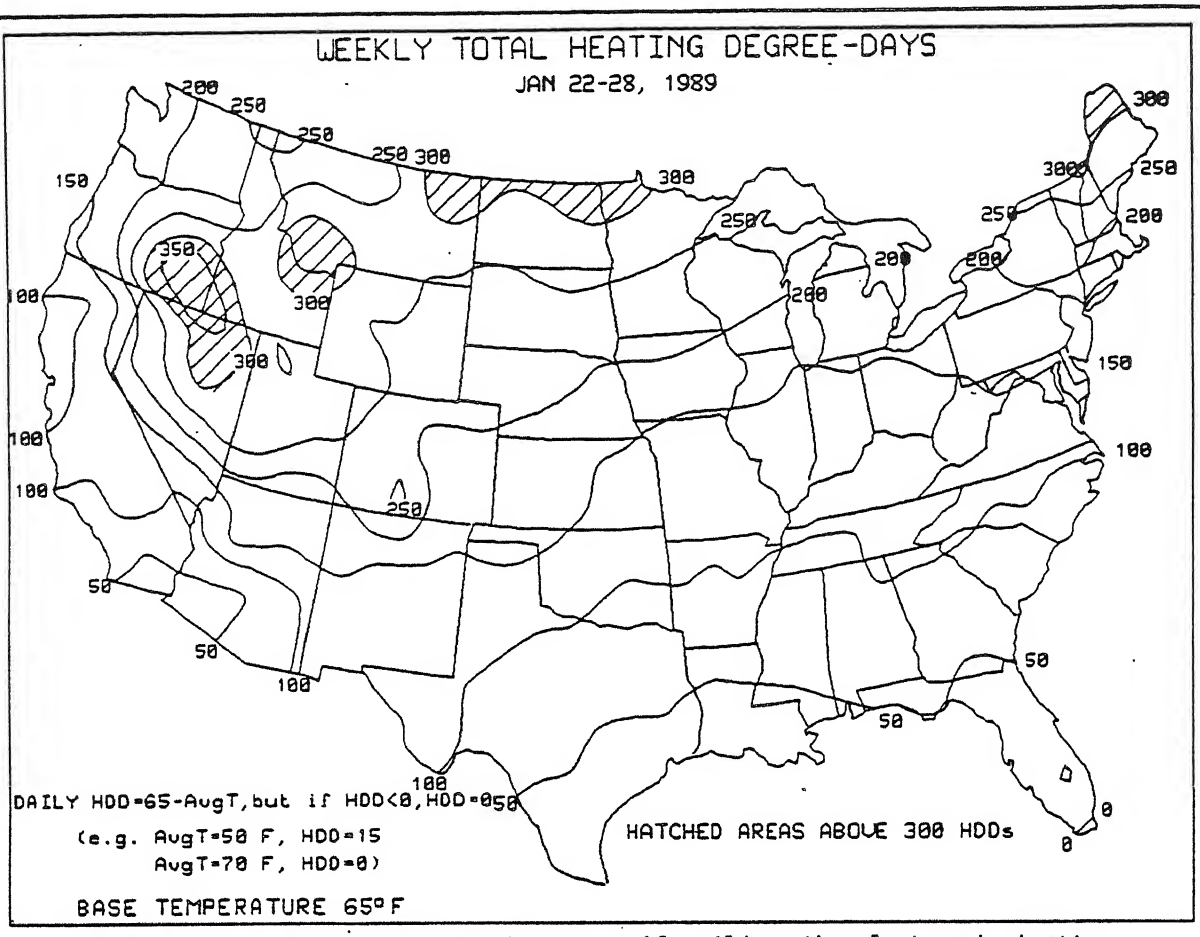
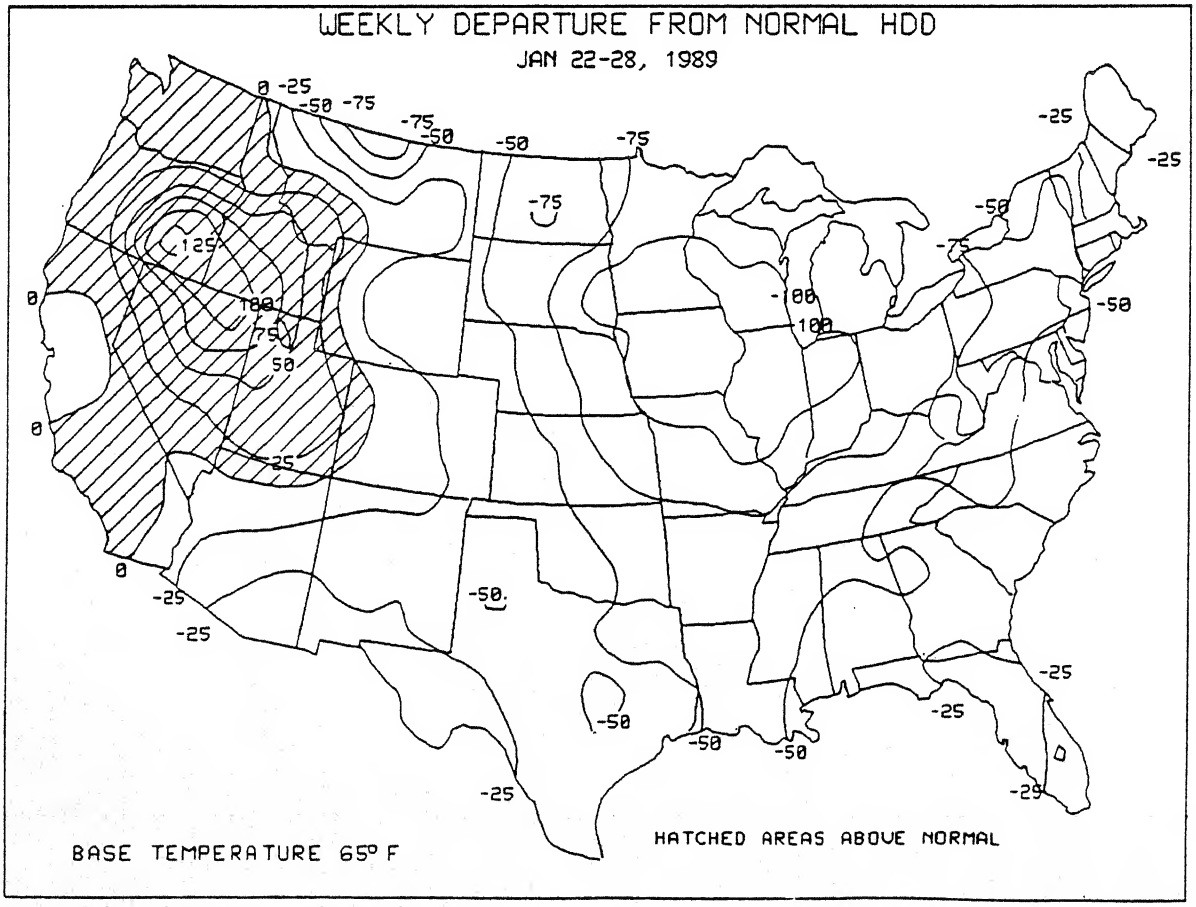


Figure 5. Percent of normal precipitation during Dec. 1, 1988-Jan. 28, 1989. Isopleths are drawn for 25, 50, 75, 100, and 150%, and stippled areas are less than 50%. Extremely dry conditions have persisted along the Atlantic and eastern Gulf Coasts, in the central Great Plains, and the Pacific Northwest during the past 8 1/2 weeks. In contrast, unusually wet weather has occurred in the northern Great Plains and the lower Mississippi, Tennessee, and Ohio Valleys. In addition, temperatures have averaged 5-10°F above normal during the first four weeks of 1989 in the eastern two-thirds of the nation (see front cover) as this winter has been rather mild and dry across much of the contiguous U.S. Similarly, winter in Europe has also been relatively dry and mild (see Special Climate Summary).

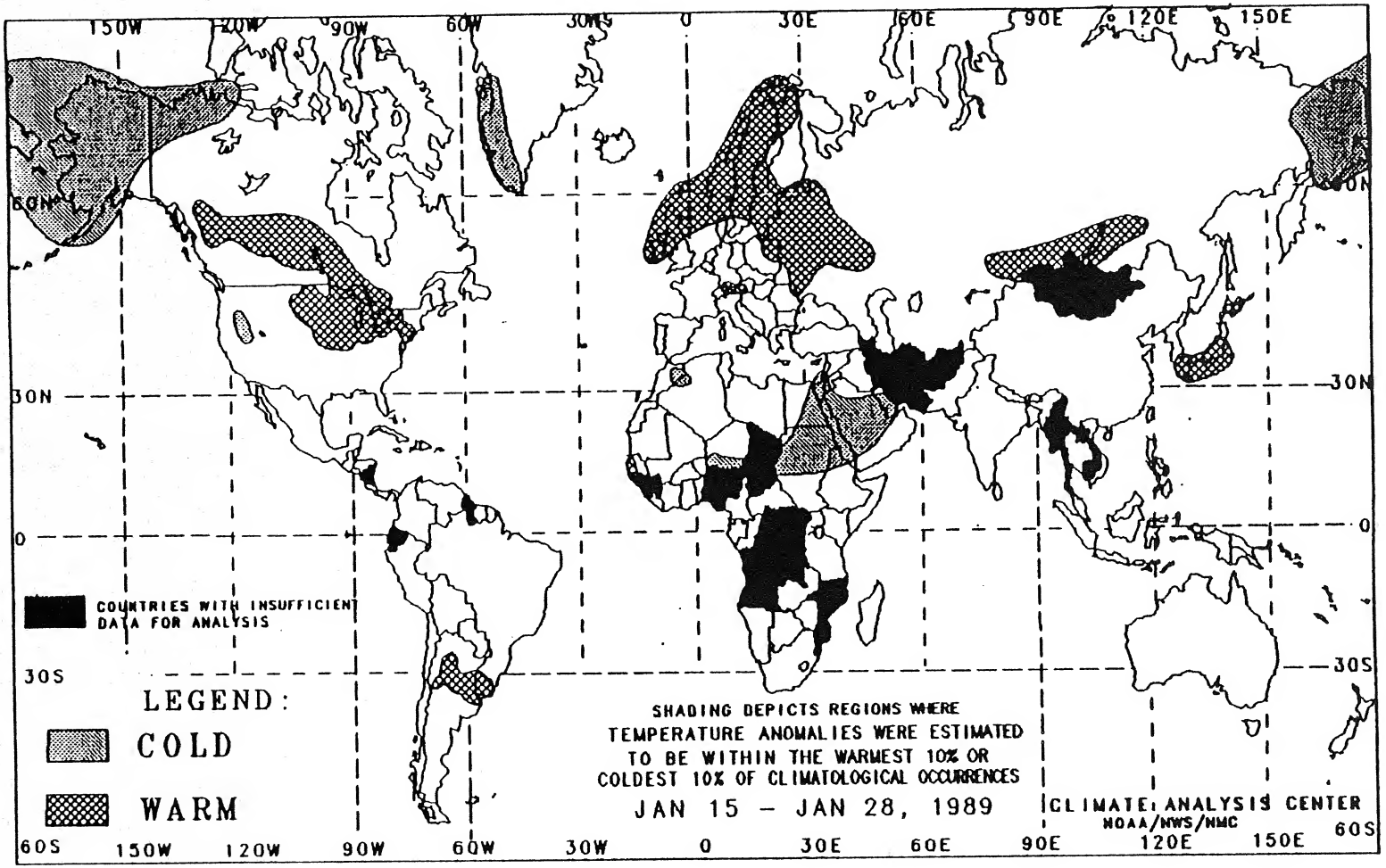


As most of the nation experienced unseasonably mild weather last week, heating usage above 300 HDD's were confined to parts of the Great Basin and the northern thirds of the Rockies, Great Plains, and New England (top). Weekly heating demand was only 50-75% of normal in the eastern half of the country (bottom).



GLOBAL TEMPERATURE ANOMALIES

2 WEEKS



The anomalies on this chart are based on approximately 2500 observing stations for which at least 13 days of temperature observations were received from synoptic reports. Many stations do not operate on a twenty-four hour basis so many night time observations are not taken. As a result of these missing observations the estimated minimum temperature may have a warm bias. This in turn may have resulted in an overestimation of the extent of some warm anomalies.

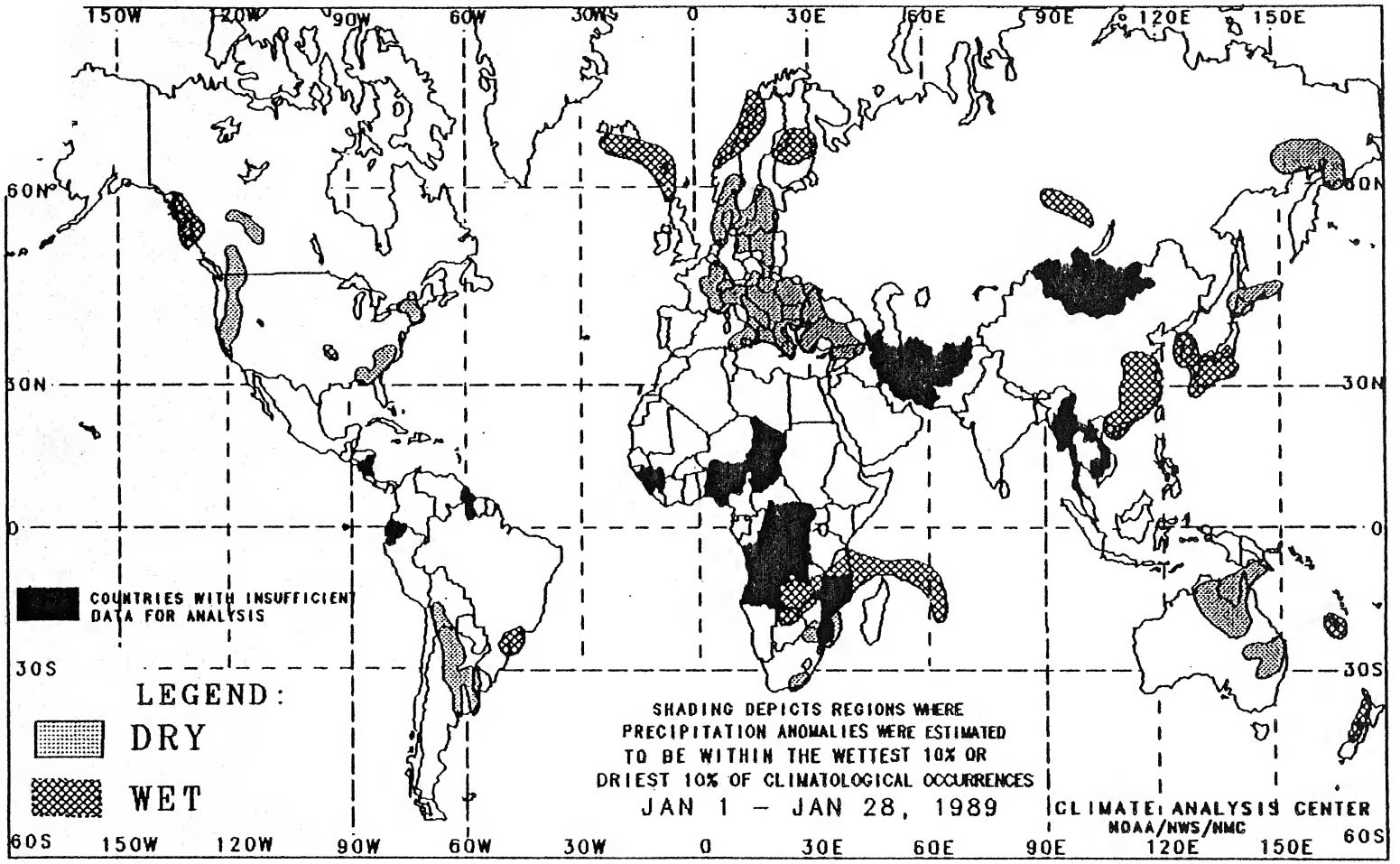
Temperature anomalies are not depicted unless the magnitude of temperature departures from normal exceeds 1.5°C.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data is insufficient for determining precentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of two week temperature anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

GLOBAL PRECIPITATION ANOMALIES

4 WEEKS



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The anomalies on this chart are based on approximately 2500 observing stations for which at least 27 days of precipitation observations (including zero amounts) were received or estimated from synoptic reports. As a result of both missing observations and the use of estimates from synoptic reports (which are conservative), a dry bias in the total precipitation amount may exist for some stations used in this analysis. This in turn may have resulted in an overestimation of the extent of some dry anomalies.

In climatologically arid regions where normal precipitation for the four week period is less than 20 mm, dry anomalies are not depicted. Additionally, wet anomalies for such arid regions are not depicted unless the total four week precipitation exceeds 50 mm.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data is insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of four week precipitation anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

SPECIAL CLIMATE SUMMARY

CLIMATE ANALYSIS CENTER, NMC
NATIONAL WEATHER SERVICE, NOAA

DANGEROUSLY COLD WEATHER GRIPS ALASKA AND NORTHWESTERN CANADA

The coldest time of the year in Alaska normally occurs in January or February, depending upon the location. In the northern (e.g. Barrow) and western (e.g. Nome) portions of the state, the coldest time of the year usually exists in mid to late February. Farther south, in Fairbanks and Anchorage for example, the lowest temperatures of the year are normally reported in late December and early January. During mid to late January, normal daily highs are approximately -15°F at Barrow, -5°F at Fairbanks, 10°F at Nome, and 20°F at Anchorage, while normal daily lows are -20°F, -20°F, 0°F, and 5°F, respectively.

Throughout December and early January, unseasonably mild weather prevailed in much of Alaska and northwestern Canada as temperatures averaged between 5°F and 15°F above normal. Around January 10, however, extremely cold air invaded the northern and western portions of the state, and by mid-January, northwestern Canada and the rest of Alaska were covered by dangerously cold weather with the exception of extreme southeastern Alaska. Since January 13, temperatures have averaged between -30°F and -40°F in the western and northern portions of the state (see Figure 1) while departures have ranged from -20°F to -40°F (see Figure 2). Minimum temperatures have fallen below -60°F in western and central Alaska, with an unofficial reading of -86°F reported near McGrath (see Figure 3). Strong winds have further exacerbated conditions as wind chills plunged to -120°F at Cantwell AK.

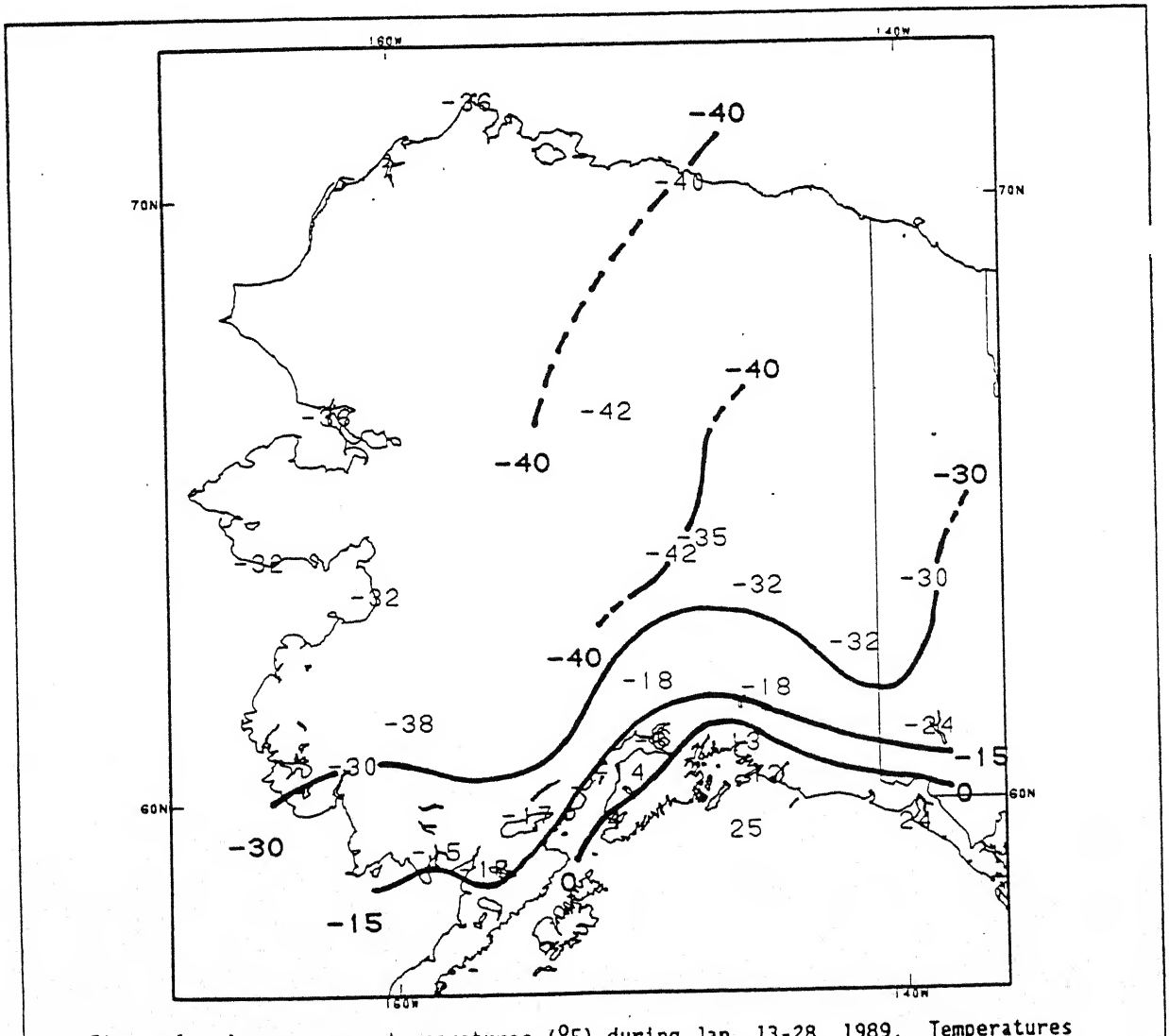

Figure 1. Average mean temperatures (°F) during Jan. 13-28, 1989. Temperatures have averaged less than -30°F in central and western Alaska.

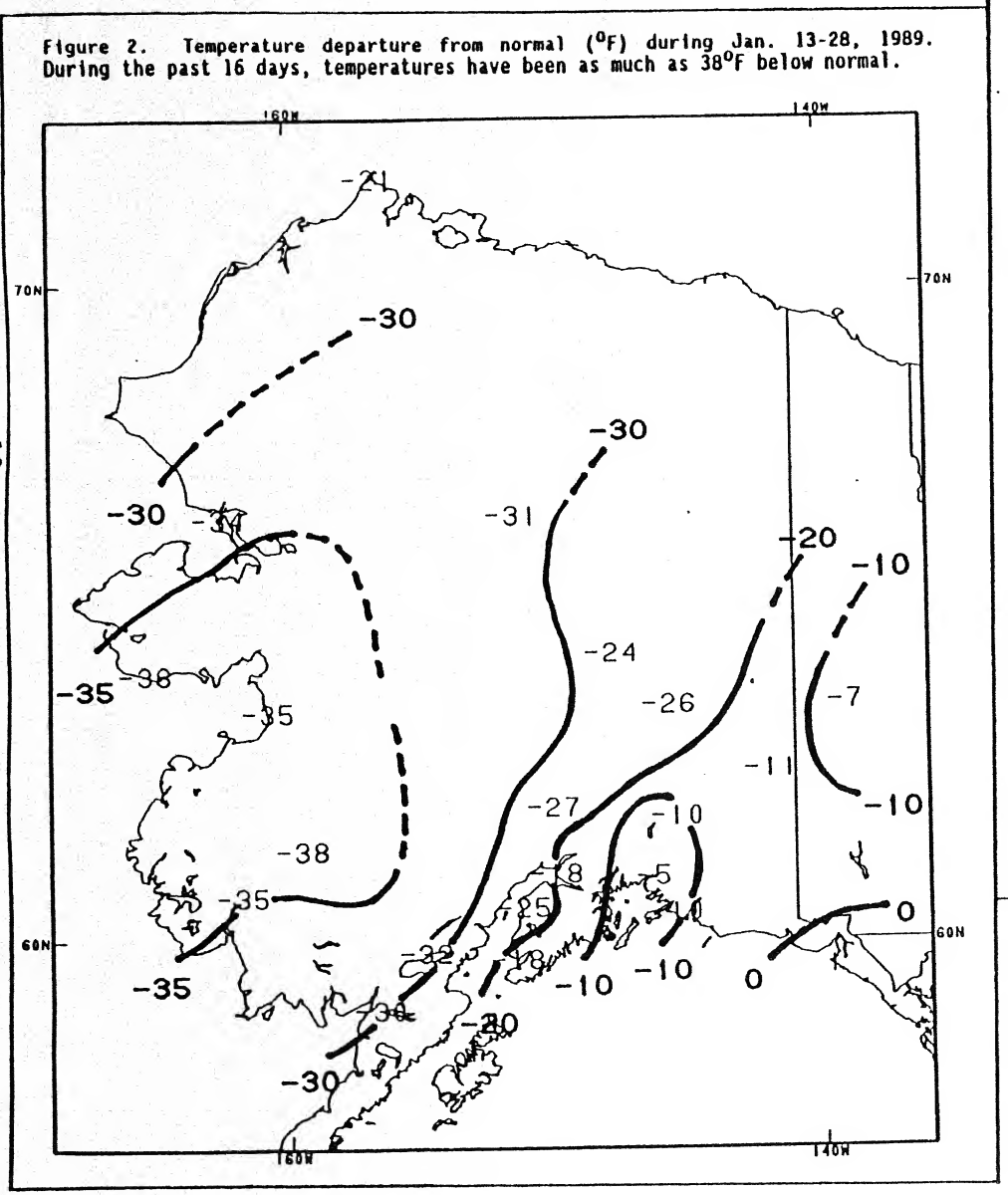

Figure 2. Temperature departure from normal (^{0}F) during Jan. 13-28, 1989. During the past 16 days, temperatures have been as much as 38^{0}F below normal.

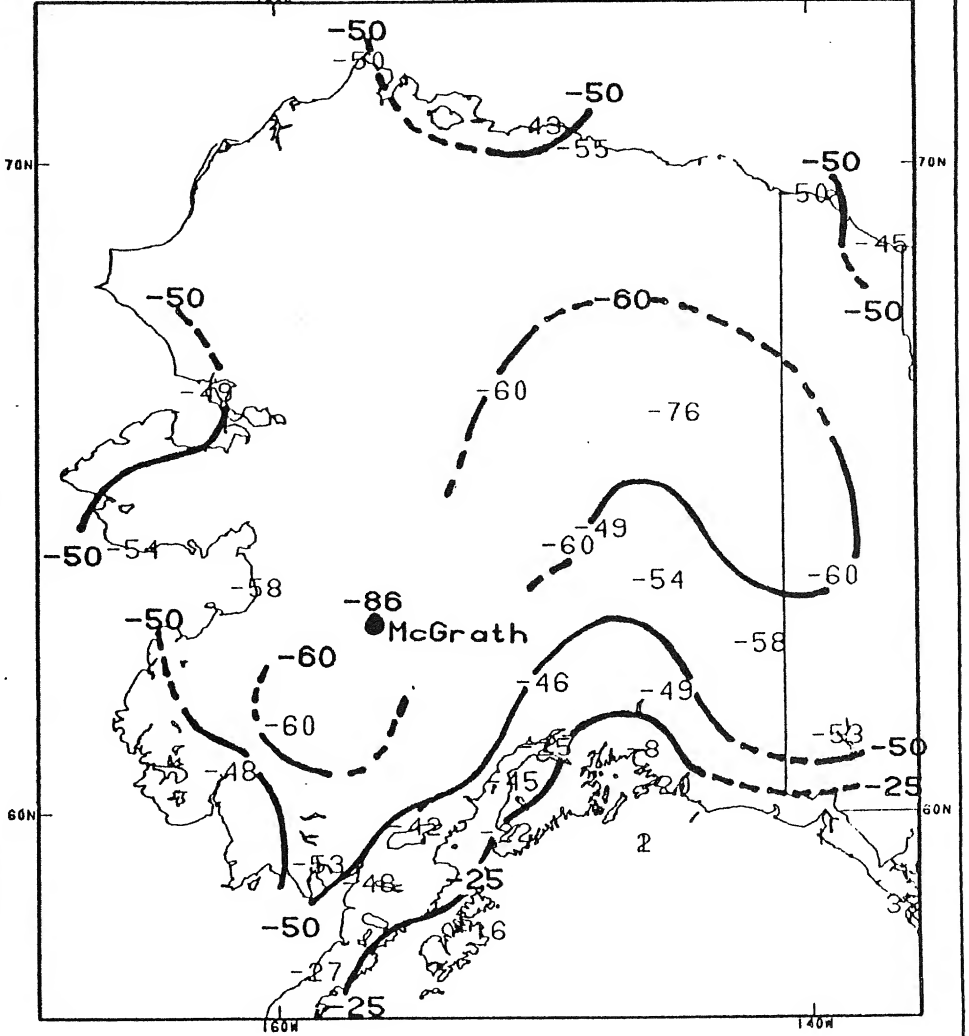

Figure 3. Extreme minimum temperatures (^{0}F) during Jan. 13-28, 1989. Lows have plummeted below -60^{0}F at several Alaskan stations, and an unofficial reading of -86^{0}F was reported near McGrath.

SPECIAL CLIMATE SUMMARY

Climate Analysis Center, NMC
National Weather Service, NOAA

UNSEASONABLY DRY CONDITIONS HAVE OCCURRED IN SOUTHERN EUROPE SINCE DECEMBER 1988

Normally, most of southern Europe and the northern coast of Africa receives the majority of their annual precipitation during the autumn and winter months. Since December 1, 1988, a large portion of southern Europe, from Portugal and Spain westward to Greece, has measured less than half their normal precipitation (see Figure 1). Sardinia, the French Alps, and the northern Italian peninsula have been acutely affected, with many stations recording less than 25% of normal precipitation and, according to press reports, an unprecedented lack of snowfall in the latter two areas. In addition to the absence of significant snows, unusually mild weather during the past eight weeks has handicapped ski resorts from making their own snow (see Figure 2).

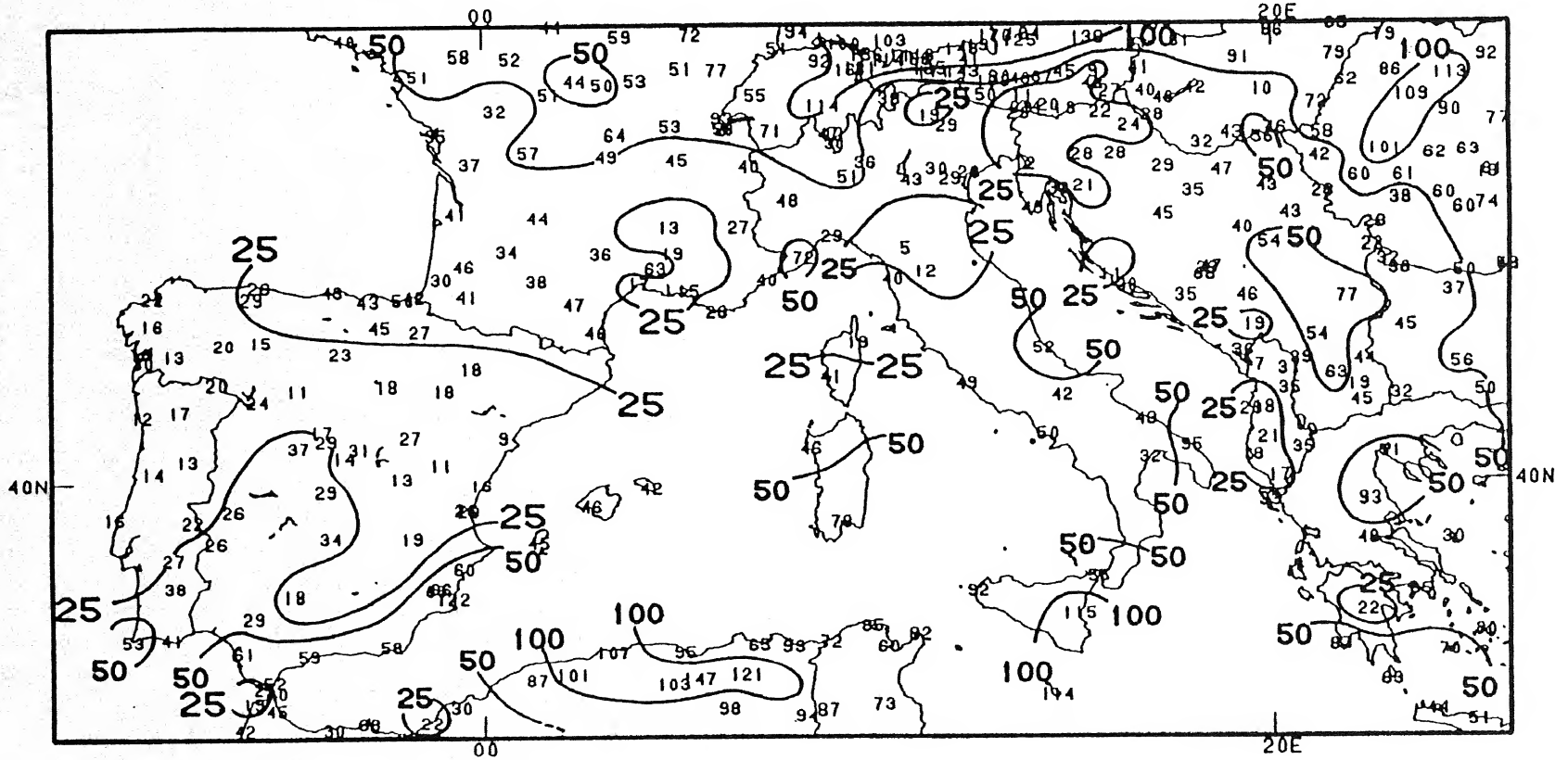

Figure 1. Percent of normal precipitation during December 1, 1988-January 28, 1989. Isopleths were drawn for 25, 50, and 100% only.

WINTER EVADES CENTRAL AND NORTHERN EUROPE

A large swath of central and northern Europe, from Ireland westward to Romania, has observed unseasonably mild conditions since December 1, 1988. Temperatures have averaged as much as 4°C (7.2°F) above normal during the past 8 1/2 weeks in parts of Scotland, East Germany, Poland, Romania, and the European Soviet Union (see Figure 2). Some southeastern European sections experienced a cold snap in mid-December; however, most of Denmark through East Germany and western Poland have remained consistently mild for more than ten weeks. Coupled with the lack of significant precipitation (see Figure 1), press reports have indicated that only about 20% of the Alpine ski resorts have remained open. Furthermore, the mild winter has dramatically lowered heating demand, saving consumers money but losing revenue for the heating industries.

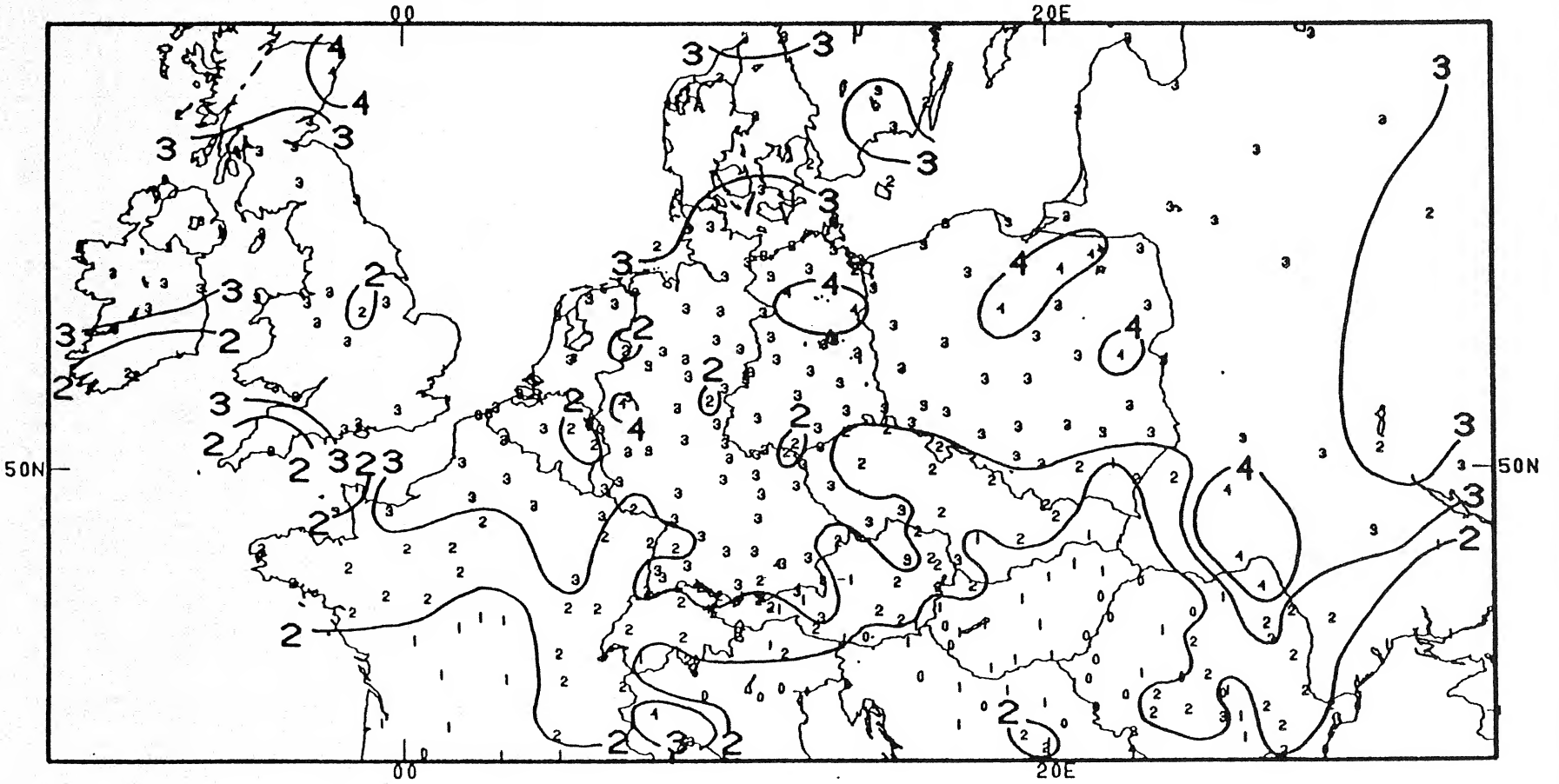

Figure 2. Average temperature departure from normal (°C) during December 1, 1988-January 28, 1989. Isotherms are drawn for 2°, 3°, and 4°C only.

SPECIAL CLIMATE SUMMARY

Climate Analysis Center, NMC
National Weather Service, NOAA

UPDATE ON SEASONAL RAINS IN SOUTHERN AFRICA

A vast majority of the southern African rains normally falls during the summer season (December-February), while the transitional months of October, November, March, and April usually provides lesser but significant amounts. Precipitation amounts generally decrease from east to west and from north to south as the lowest totals are generally found along the coasts of Namibia and southwestern South Africa, and in the Kalahari Desert of southwestern Botswana. The current precipitation totals since October 1, 1988 are shown in Figure 1.

Unexpected September rains in Transvaal and the Orange Free State got South Africa's rainy season off to an early start. During October, excess rainfall continued in central and northeastern South Africa and throughout Zimbabwe. In November, however, unseasonably dry weather occurred in the latter two areas while wet conditions persisted in the Orange Free State. The precipitation pattern shifted westward and southward during December as much of Cape Province, Natal, eastern Namibia, and western Botswana recorded above normal monthly amounts. The same rainfall pattern continued into the first week of January, but drier conditions prevailed in the area during the next three weeks.

Since October 1, 1988, most of southern Africa has experienced near to above normal precipitation with the exception of Transvaal and southern Zimbabwe (see Figure 2). More than one and a half times the normal precipitation has fallen on the northern portions of Cape Province and Zimbabwe, while seasonal surpluses exceeding 100 mm extended across central South Africa, parts of coastal Natal and Cape Province, and in extreme northern Zimbabwe (see Figure 3). In contrast, accumulated deficits of 150-250 mm exist in northern Transvaal and southern Zimbabwe.

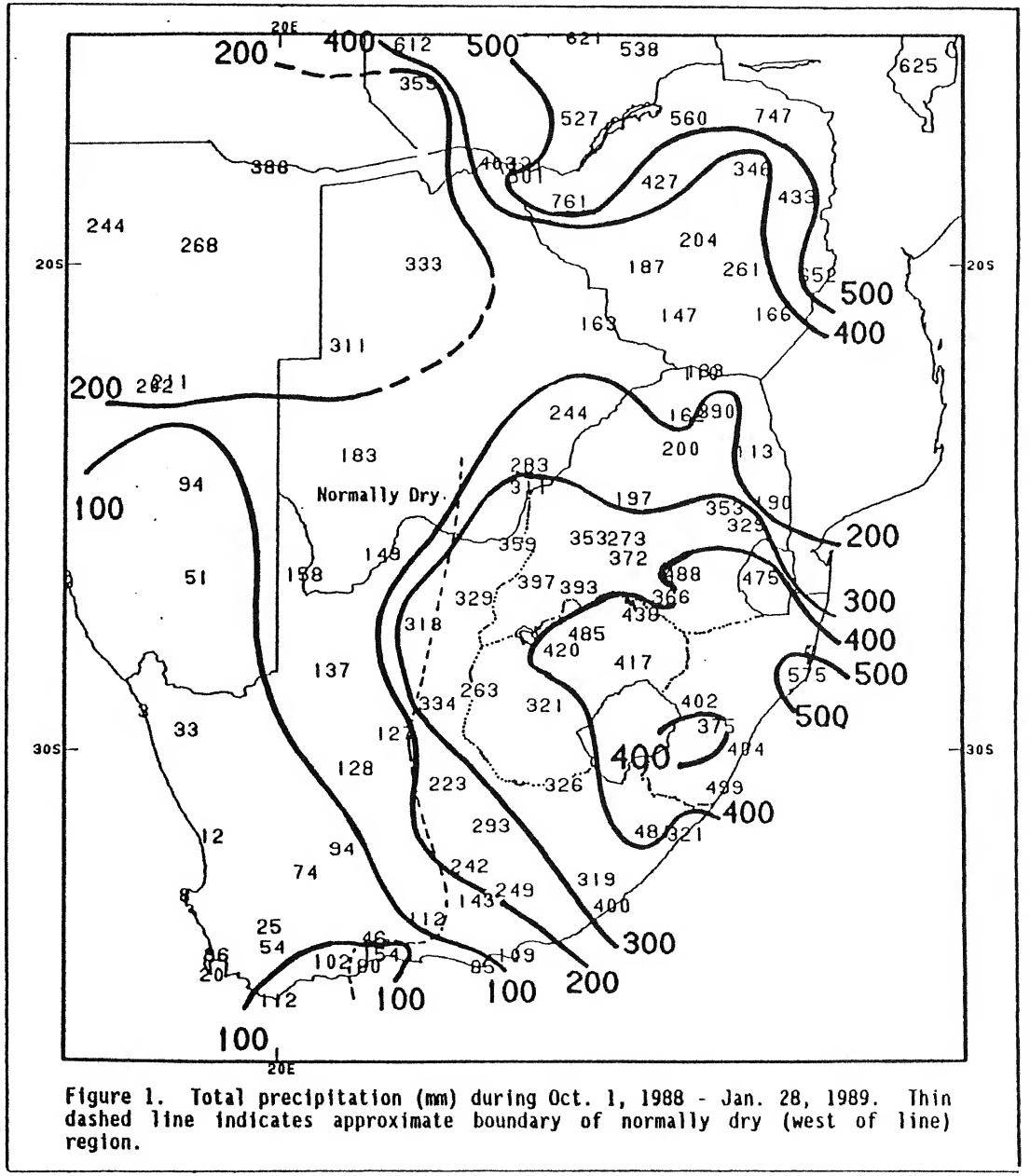

Figure 1. Total precipitation (mm) during Oct. 1, 1988 - Jan. 28, 1989. Thin dashed line indicates approximate boundary of normally dry (west of line) region.

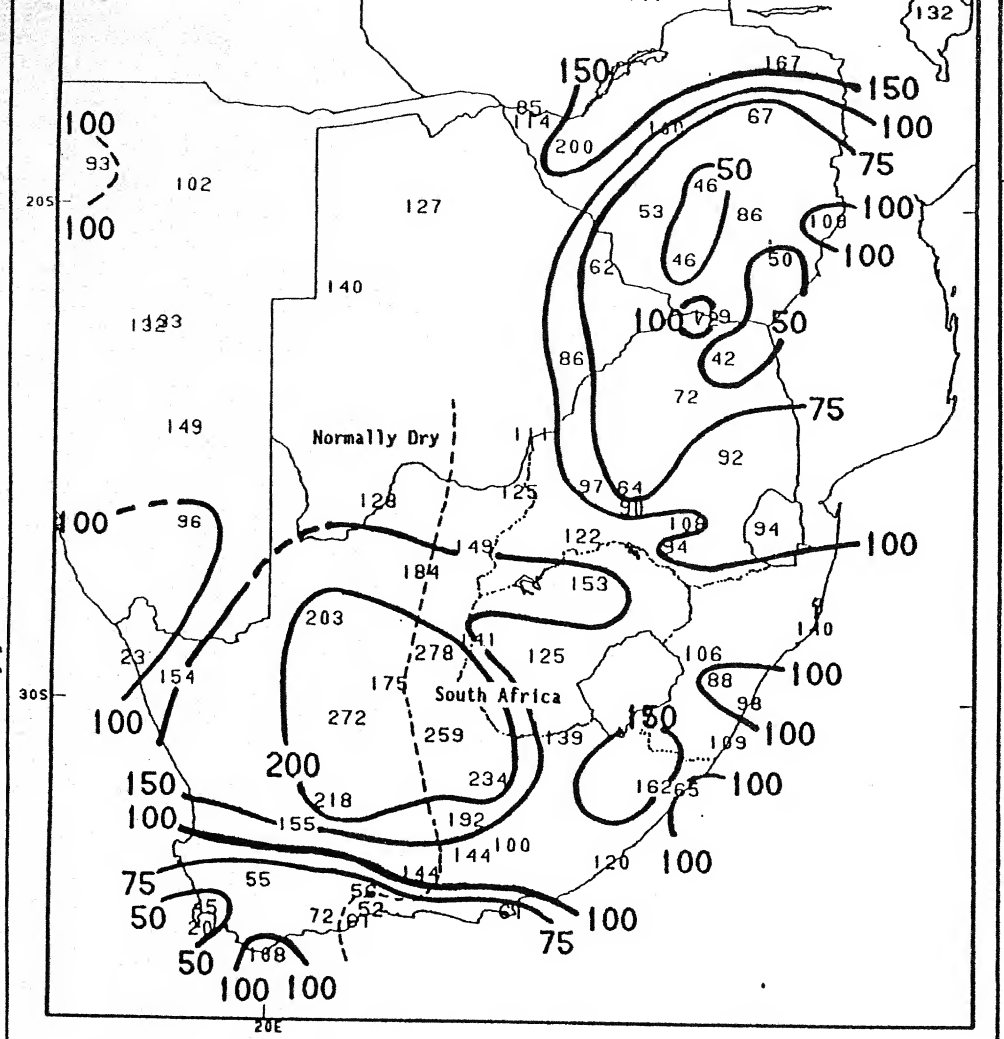

Figure 2. Percent of normal precipitation during Oct. 1, 1988 - Jan. 28, 1989. Most of southern Africa has measured near to above normal rains with the exception of Transvaal and southern Zimbabwe.

Figure 3. Departure from normal precipitation (mm) during Oct. 1, 1988 - Jan. 28, 1989. Ample rains have fallen in central South Africa and northern Zimbabwe while large deficits have accumulated in northeastern South Africa and southern Zimbabwe.